REMARKS/ARGUMENTS

Claims 1-14 and 19-20 are active. Claims 15-18 have been withdrawn from consideration. Claim 3 has been revised for clarity. A nitrogen atmosphere is disclosed on page 3, line 6 of the specification. New claim 20 finds support on page 3, lines 12-13 (oxygen content), page 8, line 19 (glass temperature), and page 4, line 4 (glass density). No new matter has been added.

Restriction/Election

The Applicants previously elected with traverse **Group I**, claims 1-14, directed to a process for manufacturing a lead-rich flat glass. The requirement was previously made FINAL. The Applicants understand that additional species will be rejoined and examined upon an indication of allowability for a generic claim reading on the elected species. The Applicants respectfully request that the claims of the nonelected group(s) or other withdrawn subject matter which depend from or otherwise include all the limitations of an allowed elected claim, be rejoined upon an indication of allowability for the elected claim, see MPEP 821.04.

Rejection—35 U.S.C. §112, second paragraph

Claim 3 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for using the conventional transitional term "consisting essentially of". While the Applicants disagree that use of conventional claim language makes this claim indefinite, claim 3 has been revised in light of page 3 of the specification to refer to a "nitrogen atmosphere". In practice, it is difficult to achieve a nitrogen atmosphere with absolutely no oxygen as described at the top of page 3 of the specification. Thus, the term "nitrogen atmosphere"

would have been construed to include very small amounts of other gases like oxygen, for example, less than 5 ppmv oxygen.

Rejection—35 U.S.C. §103(a)

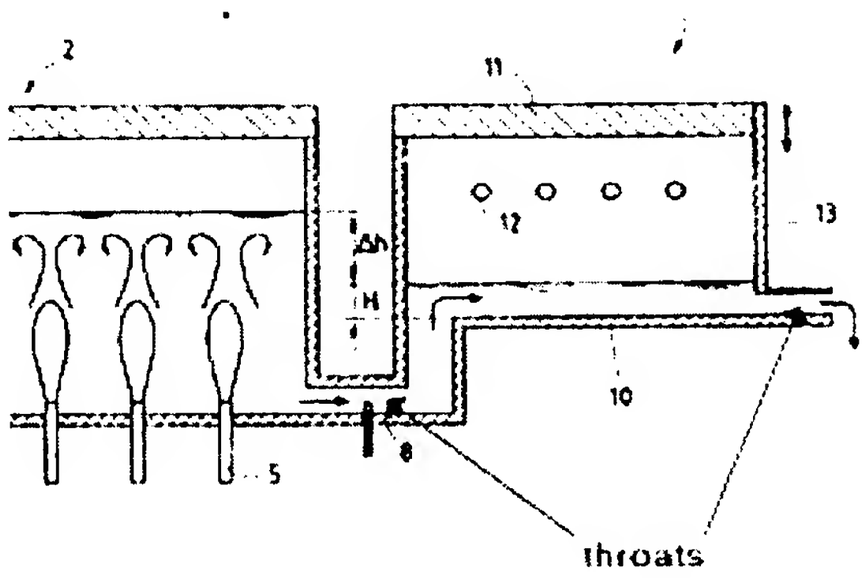
Claims 1, 3, 5-8, 11 and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Cross, U.S. Patent No. 4,027,074 in view of Jeanvoine, et al., U.S. 2002/0162358. Neither of these documents discloses or suggests the invention or provides a reasonable expectation of success for the improvements, such as prevention of a grayish film that inevitable forms in a reducing atmosphere while simultaneously preventing the oxidation of tin used in the float process.

Cross was relied upon as teaching a "modified float glass process", OA, p. 3, last paragraph. The Examiner acknowledges that "Cross does not disclose that the floating occurs in a float plant with a neutral gaseous atmosphere", OA, p. 4, lines 1-2. Rather, the Cross process works in air, which is not a neutral gaseous atmosphere.

Moreover, Cross is concerned with a polycrystalline material which has nothing to do with glass. Unlike a polycrystalline material, glass is amorphous. Cross clearly references a process producing ***crystalline*** material in its Title, Abstract, Detail Description (see col. 2, lines 57-58) and Claims (see claim 1). In distinction, the claims are directed to a "process for manufacturing flat ***glass*** rich in lead oxide".

Consequently, Cross cannot suggest or provide a reasonable expectation of success for the invention which requires producing ***glass*** (not a polycrystalline structure) by the selection of a ***neutral gaseous atmosphere*** and which provides a superior float glass not contaminated with a grayish film produced by exposure of the glass to a reducing atmosphere (e.g., an atmosphere containing hydrogen).

Jeanvoine was relied upon for teaching the element of a nitrogen atmosphere. However, Jeanvoine does not describe any float installation. A float installation is a furnace completely separated from the melt furnace and from the refiner. Thus, the atmosphere in the different compartments can differ. In particular, a throat can be used to separate the different atmospheres as shown below from Fig. 1 of Jeanvoine:



Jeanvoine also fails to suggest selecting a nitrogen atmosphere for manufacturing a flat glass rich in lead and did not recognize the advantages of doing so. Jeanvoine is silent about the advantages provided by the invention, such as providing a lead-rich glass not contaminated with a grayish film of metallic lead, see the specification, page 2, last paragraph.

The Examiner believes that it would have been obvious to substitute the nitrogen atmosphere of Jeanvoine into the float glass process of Cross because "a non-oxidizing atmosphere above the melt will prevent the furnace walls of the float plant from oxidizing (paragraph 111)", OA, lines 7-9 from bottom of page 4. Paragraph [0111] of Jeanvoine pertains to tan apparatus containing molybdenum or platinum tubes (50) described in Fig. 4 and indicates these tubes may be protected from oxidation by submerging them or by providing a non-oxidizing atmosphere. These tubes are not part of a float process, but are used to refine a vitrified material, see paragraph [0012].

At best, this disclosure generically indicates that oxidizable metals can be protected from oxidation by not contacting them with oxygen, such as preventing the oxidation of a metal element mounted in a refiner (if any). Jeanvoine is silent about preventing corrosion of the furnace walls (or metal used in the float process) and about use of a neutral or nitrogen atmosphere for production of lead-rich glass in a float process and about how to avoid formation of a grayish film of lead droplets on the lead-rich glass made by a float process.

One of ordinary skill in the art at the time of invention would not have been motivated to substitute the nitrogen atmosphere used to prevent oxidation of the molybdenum or platinum tubes of Jeanvoine in a float process of Cross because Cross does not employ molybdenum or platinum tubes and does not indicate that oxidation of the crucible or the tin-gold alloy used is a problem.

Moreover, neither of these references provided a reasonable expectation of success for the superior lead-rich float glass of the invention which is not contaminated with a grayish film of reduced lead. Cross does not contemplate this problem and could not have suggested how to solve it. Jeanvoine is a general reference with regard to various vitrifiable materials, see paragraph [0030] and also did not recognize the problems associated with producing a lead-rich glass. Consequently, this rejection cannot be sustained.

Rejection—35 U.S.C. §103(a)

Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Cross, U.S. Patent No. 4,027,074 in view of Jeanvoine, et al., U.S. 2002/0162358 as applied to claims 1-3, 5-8, 11 and 19, and further in view of Hiromatsu, U.S. 2005/0028559 and Gardner, U.S. Patent No,. 5,120,579. Cross and Jeanvoine have been addressed above. The secondary references were relied upon for teaching that the temperature of the molten metal in the float plant, but do not otherwise suggest or provide a reasonable expectation of success for the

invention. Moreover, the Examiner has not established any motivation in the prior art for combining the teachings of the secondary reference with those of the two primary references. Therefore, this rejection cannot be sustained.

Rejection—35 U.S.C. §103(a)

Claims 9 and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Cross, U.S. Patent No. 4,027,074 in view of Jeanvoine, et al., U.S. 2002/0162358 as applied to claims 1, 3, 5-8, 11 and 19; and further in view of Riebling, *Structure Changes in the Molten Oxide System*. Cross and Jeanvoine have been addressed above. Riebling was relied upon for teaching that the identity of the polycrystalline lead germanate, but does not otherwise suggest or provide a reasonable expectation of success for the invention. Moreover, the Examiner has not established any motivation in the prior art for combining the teachings of the secondary reference with those of the two primary references. Therefore, this rejection cannot be sustained.

Rejection—35 U.S.C. §103(a)

Claims 12-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Cross, U.S. Patent No. 4,027,074 in view of Jeanvoine, et al., U.S. 2002/0162358 as applied to claims 1, 3, 5-8, 11 and 19; and further in view of Maugendre,WO03/045859 (equiv. to U.S. 7,428,827). Cross and Jeanvoine have been addressed above. Maugendre was relied upon for teaching a float plant which includes a furnace with two components, but does not otherwise suggest or provide a reasonable expectation of success for the invention. Moreover, the Examiner has not established any motivation in the prior art for combining the teachings of the secondary reference with those of the two primary references. For example, one would not have been guided to combine the crucible-based process of Cross with a process using a furnace having two components. Therefore, this rejection cannot be sustained.

Conclusion

This application presents allowable subject matter and the Examiner is respectfully requested to pass it to issue. The Examiner is kindly invited to contact the undersigned should a further discussion of the issues or claims be helpful.

Respectfully submitted,

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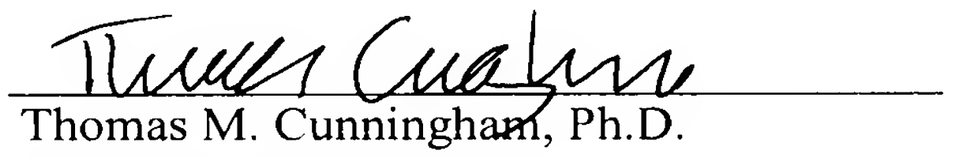

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